Claims

1. An apparatus for forming a cigarette pack comprising a first cigarette wrapping unit, a second cigarette wrapping unit and a third pack combining unit, wherein the first cigarette wrapping unit is operable to assemble a first inner frame blank member A about a first bundle of cigarettes, the second cigarette wrapping unit is operable to assemble a second inner frame blank member B about a second bundle of cigarettes, and the third pack combining unit is operable to assemble an outer blank member C about a pack assembly, which pack assembly AB comprises assembled blanks A and B.
2. An apparatus according to Claim 1, wherein said first cigarette wrapping unit, second cigarette wrapping unit and the third pack combining unit are separate cigarette packing machines.
3. An apparatus according to Claim 1, wherein the first and the second cigarette wrapping units are provided by a single unit operable to assemble a first inner blank member A about a first bundle of cigarettes and a second inner blank member B about a second bundle of cigarettes.
4. An apparatus according to any of Claims 1-3, wherein the third pack combining unit is configured to receive the first assembled cigarette bundle and the second assembled cigarette bundle in face-to-face overlaying relationship.
5. An apparatus according to Claim 4, wherein the third pack combining unit is operable to assemble the outer frame member C about the pack assembly AB, which pack assembly AB comprises the first and the second assembled cigarette bundle, said outer frame member C having a hinge line along a mating side edge of the first assembled cigarette bundle and the second assembled cigarette bundle.
6. An apparatus according to any preceding claim, wherein in advance of either of inner frame blank members A or B being assembled about the first or the second bundle of cigarettes respectively, the bundle of cigarettes is wrapped in a wrapping material.
7. An apparatus according to Claim 6, wherein the wrapping material is foil.

8. An apparatus according to any preceding claim, wherein the first cigarette wrapping unit is configured to form a bundle of thirteen cigarettes.

9. An apparatus according to any preceding claim, wherein the second cigarette wrapping unit is configured to form a bundle of seven cigarettes.

10. An apparatus according to any preceding claim, wherein the first cigarette wrapping unit and the second cigarette wrapping unit each comprise a cigarette receiving station, a wrapping station, an inner frame blank conveyor, a folding station and a transferring conveyor.

11. An apparatus according to Claim 10, wherein the first cigarette wrapping unit and the second cigarette wrapping unit further comprise a drying drum.

12. An apparatus according to Claims 10 or 11, wherein in the first and the second cigarette wrapping unit, the wrapped bundle of cigarettes is conveyed to the folding station in the inner frame blank conveyor.

13. An apparatus according to Claim 12, wherein the first and/or the second cigarette wrapping machine further comprise an indexed advancing mechanism whereby the wrapped bundle of cigarettes is advanced into the folding station.

14. An apparatus according to any of Claims 10-13, wherein the first and the second cigarette wrapping units further comprise a blank feed from which, in use, an inner frame blank member A or B is conveyed into the folding station in the inner frame blank conveyor.

15. An apparatus according to any of Claims 10-14, wherein the folding station comprises a rounded pocket, a square pocket or a bevelled pocket.

16. An apparatus according to any preceding claim, wherein the first cigarette wrapping machine or the second cigarette wrapping unit further comprises an inverting station, whereby the assembled cigarette bundle is inverted before being conveyed by the transfer conveyor to the third pack combining unit.

17. An apparatus according to any of Claims 10-16, wherein the transfer conveyors of the first cigarette wrapping unit and the second cigarette wrapping machine are

each operable to convey the assembled cigarette bundles to the third pack combining unit.

18. An apparatus according to Claim 17, wherein the transfer conveyors of the first cigarette wrapping unit and the second cigarette wrapping unit are adjacent one another in offset, parallel relation.

19. An apparatus according to Claim 18, wherein the transfer conveyor of the second cigarette wrapping unit is positioned to be lower than the transfer conveyor of the first cigarette wrapping machine.

20. An apparatus according to Claim 18, wherein the transfer conveyor of the first cigarette wrapping machine is positioned lower than the transfer conveyor of the second cigarette wrapping machine.

21. An apparatus according to any preceding claim, wherein the third pack combining unit comprises a conveyor transfer station having a first transfer plunger and a second transfer plunger, the first transfer plunger crossing a conveyor line from the first cigarette wrapping unit, the second transfer plunger crossing a conveyor line from the second cigarette wrapping machine, whereby both the first and the second transfer plungers are operable to deposit assembled cigarette bundles A and/or B onto a combination conveyor thereby forming pack assembly AB.

22. An apparatus according to any preceding claim, wherein the third pack combining unit comprises a blank feed from which an outer frame blank member C is fed into a folding station.

23. An apparatus according to any preceding claim, wherein the third pack combining unit further comprises a cutting device which cutting device is operable to cut the outer frame blank member C along the bottom wall thereof to allow opening of the hinged lid pack along the vertical hinge line.

24. An apparatus according to Claim 23, wherein the cutting device is a knife.

25. An apparatus according to any preceding claim, wherein the third pack combining unit further comprises an end sealing device.

26. An apparatus according to Claim 25, wherein the end sealing device is a foam belt.

27. An apparatus according to Claim 25 or Claim 26, wherein the end sealing device is a continuous belt.

28. An apparatus according to any of claims 10-26, wherein the transfer conveyors of the first and the second cigarette wrapping units each further comprise sensors whereby the sensors are operable to detect a shortage of assembled cigarette bundles A and/or B on the transfer conveyors.

29. An apparatus according to Claim 28, wherein the sensors are in communication with the first and second cigarette wrapping units and the third pack combining unit such that the operating speeds of the units are controllable in accordance with a supply-demand relationship for the assembled cigarette bundles in each of the three units.

30. A method of assembly of a cigarette pack wherein the pack is a hinged lid side-by-side vertically hinged cigarette pack, the method comprising forming a first wrapped bundle of cigarettes having a first inner frame member A, forming a second wrapped bundle of cigarettes having a second inner frame member B, transporting said first wrapped bundle of cigarettes and said second wrapped bundle of cigarettes to a pack combining unit in combined relationship as a pack assembly AB, and assembling an outer frame blank member C about the pack assembly AB.

31. A method according to Claim 30, wherein the first wrapped bundle of cigarettes having a first inner frame member A is formed on a first cigarette wrapping unit in which a first bundle of cigarettes is wrapped in a wrapper, a first inner blank member A is fed to a folding station in the first cigarette wrapping unit and partially erected, the first of wrapped bundle of cigarettes is plunged into the partially erected first inner blank member A, and the partially erected first inner blank member A is completely erected about the first wrapped bundle of cigarettes.

32. A method according to Claim 30, wherein the second wrapped bundle of cigarettes having a second inner frame member B is formed on a second cigarette wrapping unit in which a second bundle of cigarettes is wrapped in a wrapper, a second inner blank member B is fed to a folding station in the second cigarette wrapping unit and partially erected, the second wrapped bundle of cigarettes is plunged into the partially erected second inner blank member B, and the partially erected second inner blank member B is completely erected about the second wrapped bundle of cigarettes.

33. A method according to any one Claims 30-32, wherein the outer blank member C is formed about pack assembly AB on the third pack combining unit by partially erecting outer blank member C, plunging pack assembly AB into the partially erected outer blank member C and completely erecting the outer blank member C about the pack assembly AB.

34. A method according to Claim 33, wherein when outer blank member C is partially erected about pack assembly AB, a vertical hinge panel of the outer blank member C is adhesively applied to the first assembled cigarette bundle of pack assembly AB thereby allowing the pack assembly AB to hinge about a vertical hinge line.

35. A method according to any of Claims 30-34, further comprises cutting a bottom panel of the outer blank member C in half to allow the first assembled cigarette bundle and the second assembled cigarette bundle to separate about the vertical hinge line.

36. A method according to any of Claims 30-35 wherein the first assembled cigarette bundle comprises seven cigarettes.

37. A method according to any of Claims 30-36 wherein the second assembled cigarette bundle comprises thirteen cigarettes.

38. A method according to any of Claims 30-37, wherein the first and the second assembled cigarette bundles further comprise a wrapping material wrapped about the bundle of cigarettes.

39. A method according to Claim 38, wherein the wrapping material is a foil.

40. A system providing a cigarette packing machine, the machine consisting of three separate units or machines, a first cigarette wrapping unit, a second cigarette wrapping unit and a third pack combining unit.

41. A system according to Claim 40, wherein the system provides for creation of a first and a second foil wrapped inner frame bundle for combining at a subsequent unit which partially surrounds them with an outer frame having a hinged lid.

42. An apparatus substantially as hereinbefore described with reference to the accompanying drawings.

43. A method substantially as hereinbefore described

44. A system substantially as hereinbefore described with reference to the accompanying drawings.